

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sukant Tripathy et al.
For: AN ASSEMBLED HEMATIN, METHOD FOR FORMING
SAME AND METHOD FOR POLYMERIZING AROMATIC
MONOMERS USING SAME
Attorney's Docket No.: NA-1219-CIP 2

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR 1.56, 1.97 and 1.98, Applicants hereby make the documents noted on the accompanying substitutes for form 1449A/PTO documents of record in the above-identified application.

Copies of all documents listed, less documents I, AW and AX, were previously submitted to, or cited by, the Office in U.S. Patent Application Serial No. 09/994,998. Cited documents I, AW and AX are enclosed herewith.

Applicants respectfully request that these documents be fully considered by the U.S. Patent and Trademark Office.

Applicants also respectfully request that a copy of Form PTO-1449 (five pages), as considered and initialed by the Examiner, be returned to the undersigned with the next communication.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No certification or fee is believed to be required.

It is believed that this disclosure complies with the requirements of 37 CFR 1.56, 1.97 and 1.98. If for any reason the Examiner considers otherwise, it is respectfully requested that the undersigned be contacted by the Examiner by telephone in order that any deficiencies may be expeditiously remedied.

The enclosed documents may have markings thereon. Applicants are not presently aware of the source of those markings, and no significance is meant to be attached thereto.

6 FEB 2004

Respectfully submitted,

Vincent J. Ranciaro

KA/NA1219CIP2.IDS

Please type a plus sign (+) inside this box → +

PTO/SB/08B (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO			C m p l t i f K n o w n		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			Application Number		
			Filing Date		
			First Named Inventor Sukant Tripathy		
			Group Art Unit		
			Examiner Name		
Sheet	2	of	5	Attorney Docket Number NA-1219-CIP 2	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	J	Tzou, K. and Gregory, R.V., "A method to prepare soluble polyaniline salt solutions - in situ doping of PANI base with organic dopants in polar solvents," <i>Synthetic Metals</i> , 53:365-377 (1993).	
	K	Nguyen, M.T., et al., "Synthesis and properties of novel water-soluble conducting polyaniline copolymers," <i>Macromolecules</i> , 27:3625-3631 (1994).	
	L	Shannon, K. and Fernandez, J.E., "Preparation and properties of watersoluble, poly(styrenesulfonic acid) -doped polyaniline," <i>J. Chem. Soc., Chem. Comm.</i> , 643-644 (1994).	
	M	Tanaka, K., et al., "Doping effect of C60 on soluble polyaniline," <i>Synthetic Metals</i> , 66:193-196 (1994).	
	N	Ferreira, M., et al., "Molecular self-assembly of conjugated polyions: a new process for fabricating multilayer thin film heterostructures," <i>Thin Solid Films</i> , 244:806-809 (1994).	
	O	Ng, S.C., et al., "Poly(o-aminobenzylphosphonic acid): a novel water soluble, self-doped functionalized polyaniline," <i>J. Chem. Soc., Chem. Commun.</i> , 1327-1328 (1995).	
	P	Chen, S. and Hwang, G., "Synthesis of water-soluble self-acid-doped polyaniline," <i>J. Am. Chem. Soc.</i> , 116:7939-7940 (1994).	
	Q	Chen, S. and Hwang, G., "Water-soluble self-acid-doped conducting polyaniline: structure and properties," <i>J. Am. Chem. Soc.</i> , 117:10055- 10062 (1995).	
	R	Chan, H.S.O., et al., "A new water-soluble, self-doping conducting polyaniline from poly(o-aminobenzylphosphonic acid) and its sodium salts: synthesis and characterization," <i>J. Am. Chem. Soc.</i> , 117:8517-8523 (1995).	
	S	Dordick, J.S., et al., "Peroxidases depolymerize lignin in organic media but not in water," <i>Proc. Natl. Acad. Sci. USA</i> , 83:6255-6257 (1986).	
	T	Dordick, J.S., et al., "Polymerization of phenols catalyzed by peroxidase in nonaqueous media," <i>Biotechnology and Bioengineering</i> , 30:31-36 (1987).	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450

Please type a plus sign (+) inside this box → +

PTO/SB/08B (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			C mplete if Known		
			Application Number		
			Filing Date		
			First Named Inventor		
			Group Art Unit		
			Examiner Name		
			Attorney Docket Number		
Sheet	3	of	5	NA-1219-CIP 2	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	U	Kazandjian, R. Z., et al., "Enzymatic analyses in organic solvents," Biotechnology and Bioengineering, 28:417-421 (1986).	
	V	Klibanov, A.M. et al., "Enzymatic removal of toxic phenols and anilines from waste waters," J. Appl. Biochem., 2:414-421 (1980).	
	W	Sakaki, J., et al., "Lipase-catalyzed asymmetric synthesis of 6-(3-chloro-2-hydroxypropyl) -1, 3-dioxin-4-ones and their conversion to chiral 5,6-epoxyhexanoates," Tetrahedron: Asymmetry, 2:343-346 (1991).	
	X	Ikeda, R., et al., "Novel synthetic pathway to a poly (phenylene oxide) . Laccase-catalyzed oxidative polymerization of syringic acid," Macromolecules, 29: 3053-3054 (1996).	
	Y	Akkara, J.A., et al., "Synthesis and characterization of polymers produced by horseradish peroxidase in dioxane," J. Polymer Sci.: Part A: Polymer Chemistry, 29:1561-1574 (1991).	
	Z	Klibanov, A.M. and Morris, E.D., "Horseradish peroxidase for the removal of carcinogenic aromatic amines from water," Enzyme Microb. Technol., 3:119-122 (1981).	
	AA	Ayyagari, M.S., et al., "Controlled free-radical polymerization of phenol derivatives by enzyme-catalyzed reactions in organic solvents," Macromolecules, 28:5192-5197 (1995).	
	AB	Bruno, F.F., et al., "Enzymatic mediated synthesis of conjugated polymers at the Langmuir trough air-water interface," Langmuir, 11:889-892 (1995).	
	AC	Lapkowski, M., "Electrochemical synthesis of linear polyaniline in aqueous solutions," Synthetic Metals, 35:169-182 (1990).	
	AD	March, J., in Advanced Organic Chemistry - Reactions, Mechanisms, and Structure (NY: Magraw-Hill Company), pp.667, 668 (1977).	
	AE	Shinohara, H., et al., "Enzyme microsensor for glucose with an electrochemically synthesized enzyme-polyaniline film," Sensors and Actuators, 13:79-86 (1988).	

Examiner Signature	Date Considered
-----------------------	--------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450

Please type a plus sign (+) inside this box → +

PTO/SB/08B (10-96)

Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			C mplete if Known		
			Application Number		
			Filing Date		
			First Named Inventor	Sukant Tripathy	
			Group Art Unit		
			Examiner Name		
			Attorney Docket Number	NA-1219-CIP 2	
Sheet	4	of	5		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	AF	Alva, K.S., et al., "Biochemical synthesis of water soluble polyanilines: poly(p-aminobenzoic acid) ," Macromol. Rapid Comm., 17:859.-863 (1996).	
	AG	Liao, Y., and Levon, K., "Solubilization of polyaniline in water by interpolymer complexation," Macromol. Rapid Commun., 16: 393-397 (1995).	
	AH	Excerpts from "Plastics Engineering: Plastics - Saving Planet Earth," Volume LIII, Number 3 -(Toronto; March, 1997).	
	AI	Westerweele, E., et al., "'Inverted' Polmer Light-Emitting Diodes on Cylindrical Metal Substrates," Advanced Materials, 7(9) :788-790 (1995).	
	AJ	Ryu, K., et al., "Peroxidase-Catalyzed Polymerization of Phenols: Kinetics of p-Cresol Oxidation in Organic Media," American Chemical Society Symp. Ser., 389:141-157 (1989).	
	AK	Alva, K.S., et al., "Novel Immobilization Techniques in the Fabrication of Efficient Electrochemical Biosensors," SPIE, 2716: 152-163 (1996).	
	AL	Genies, E.M., et al., "A rechargeable battery of the type polyaniline/propylene carbonate -LiClO4/Li-Al," Journal of Applied Electrochemistry 18:751-756 (1988).	
	AM	Samuelson, L.A., et al., "Biologically Derived Conducting and Water Soluble Polyaniline," Macromolecules 31:4376-4378 (1998).	
	AN	Liu, W., et al., "Enzymatically Synthesized Conducting Pollyaniline," J. Am. Chem. Soc. 121:71-78 (1999).	
	AO	Zhang, Q.M., et al., "Enzymatic Template Synthesis of Polyphenol," Materials Research Society 600:255-259 (2000).	
	AP	Akkara, J.A., et al., "Hematin-Catalyzed Polymerization of Phenol Compounds," Macromolecules 33:2377-2382 (2000).	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450

Please type a plus sign (+) inside this box → +

PTO/SB/08B (10-96)

Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Compleat if Kn wn	
		Application Number			
		Filing Date			
		First Named Inventor		Sukant Tripathy	
		Group Art Unit			
		Examiner Name			
		Attorney Docket Number		NA-1219-CIP 2	
Sheet	5	of	5		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials [*]	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	AQ	Dordick, J. S., "Enzymatic catalysis in monophasic organic solvents," 1 Eynzyme Microbial Technology 11: 194-211 (1989).	
	AR	Dunford, H.B., "Horseradish Peroxidase: Structure and Kinetic ji. Properties," In Peroxidases in Chemistry and Biology Vol. II, J. Everse, et al., eds (FL: CRC Press, Inc.), Pp 2-17 (1991).	
	AS	Wudl, F., et al., "Poly(p-phenyleneamineimine): Synthesis and arison to Polyaniline" J. Am. Chern. Soc. 109:3677-3684 (1987).	
	AT	Stafström, S., et al., "Polaron Lattice in Highly Conducting Polyaniline: Theoretical and Optical Studies," The American Physical Society 59:1464-1467 (1987).	
	AU	Shacklette, L.W., et al., "EMI Shielding of Intrinsically Conductive Polymers," In Search of Excellence by Society of Plastic Engineers and Plastics Engineering 665-667 (1991).	
	AV	Przybycien et al. "Electrochemical separation utilizing metalloporphyrins and metallophthalocyanines", 1998, Chem Abstract 128: 162418.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.
DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450